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10/646,684	08/25/2003	Thomas J. Kelly	08350.3304-02	9971

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901 New York Avenue, NW  
WASHINGTON, DC 20001-4413

EXAMINER
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SIDDIQI, MOHAMMAD A

ART UNIT	PAPER NUMBER
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2454

MAIL DATE	DELIVERY MODE
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03/03/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Supplemental  
Notice of Allowability**

**Application No.**

10/646,684

**Examiner**

MOHAMMAD A. SIDDIQI

**Applicant(s)**

KELLY ET AL.

**Art Unit**

2454

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 01/27/2009.
2. ☒ The allowed claim(s) is/are 1, 3-6, 14-15, 17 and 24-26 (Please rearrange claims 1-11).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

/Nathan J. Flynn/  
Supervisory Patent Examiner, Art Unit 2454

Continuation of Attachment(s) 3. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 10/09/2008,01/27/2009.

**DETAILED ACTION**

1. Claims 1, 3-6, 14-15, 17, and 24-26 are allowed.

**EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Philip Hoffmann on 10/10/2008.

The claims has been amended as attached:

In the claims:

1. (Currently amended) A communication system ~~for managing communications between one or more on-board modules connected to one or more on-board data links and one or more off-board systems connected to one or more off-board data links, the system~~ comprising:

an off-board computer; and

a first work machine, comprising:

an on-board data link;

~~a first~~ an on-board control module connected to a first ~~the~~ on-board data link, wherein the on-board module and first on-board data link are located in a work machine, and the first on-board control module monitoring a value of a first parameter information data code of a mechanical system on-board is configured to gather information relating to operation of the first work machine, and generating a first message containing the value of the first parameter information data code;

~~a first off board system connected to a first off board data link, wherein the first off board system is remotely located from the work machine;~~  
and

a an on-board gateway embedded in the work machine, comprising the gateway including:

a first interface for connecting to the on-board data link; and

a second interface means for connecting the on-board data links and to an off-board data link links respectively to the gateway;

a server application configured to perform, when executed by a processor, a server process based on a server request provided by at least one of receive the first message from the first on-board module via the on-board data link, to communicate with a second work machine via the off-board data link to receive a second message containing a value of a second parameter information data code of a mechanical system on-board the second work machine, and the first to communicate with the off-board computer; system,

a communications application configured to convert a data formats of the first and second messages message from a first format to a second format for communication to the off-board computer, based on a type types of data link links used by the gateway to transmit the data first message and second messages [[,]]; and

a Web server application configured to generate work machine performance data based on the converted first message or on the converted second message, and to provide perform a Web server process that provides a Web page, maintained by the gateway, to the first off-board system, the Web page containing the work machine performance data, the work machine performance data including the value of the first parameter information data code or the value of the second

~~parameter information data code information relating to operation of the  
work machine gathered by the first on-board module,~~

~~wherein the off-board computer being configured to communicate with  
the gateway, via the server application, to access the Web page containing the work  
machine performance data, and the gateway selectively executes executing the  
server, communication, and Web server applications based on a type of request  
received by the gateway from one of the first on-board control module and first or  
from the off-board system computer.~~

2. (Canceled)

3. (Currently amended) The system of claim 1, wherein the first interface ~~means~~  
includes a plurality of on-board data link ports each connected to ~~respective ones of~~  
the on-board data links ~~including the first on-board data link.~~

4. (Currently amended) The system of claim 3, wherein the second interface  
~~means~~ includes a plurality of off-board data link ports each connected to ~~respective~~  
~~ones of the off-board data links including the first off-board data link.~~

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5. (Currently amended) The system of claim 1, wherein the ~~first~~ off-board data link is ~~one of~~ an Ethernet data link, an SAE standard serial data link, a wireless radio data link, ~~and~~ or a wireless satellite data link.

6. (Currently amended) The system of claim 1, wherein the ~~first~~ on-board data link is ~~one of~~ a proprietary data link ~~and~~ or an SAE standard serial data link.

7. -13. (Canceled)

14. (Currently amended) The system of claim 1, wherein the gateway is software embedded in an on-board module that controls one or more components of the first work machine.

15. (Currently amended) A method for managing communications in an environment including a first work machine having ~~one or more~~ an on-board data links link connected to ~~one or more modules on board the work machine and~~ an on-board control module, a an on-board gateway, ~~on board the work machine~~ and having ~~one or more~~ an off-board data links link connected to ~~one or more~~ an off-board systems computer and to the gateway, the method ~~performed by the gateway~~ comprising:



monitoring, by the on-board control module, a value of a first parameter information data code of a mechanical system on-board of the first work machine;

generating, by the on-board control module, a first message containing the value of the first parameter information data code;

~~receiving a request generated by a source device and transmitted on a first data link;~~

~~selectively executing, by the gateway, a server application based on the request, wherein the server application performs a server process to:~~

receive the first message from the on-board control module via the on-board data link,

communicate with a second work machine, via the off-board data link, to receive a second message containing a value of a second parameter information data code of a mechanical system on-board the second work machine, and

communicate with the off-board computer;

~~identifying a destination device associated with the request;~~

~~configuring the request to a format compatible with the destination device;~~

~~providing the formatted request to the destination device;~~

~~receiving a response to the formatted request from the destination device;~~

~~configuring the response to a format compatible with the first data link;~~

~~sending the response to a target device over the first data link, wherein the first data link is either one of the on-board data links and one of the off-board data links and the source device is either one of the on-board modules and one of the off-board systems; and~~

selectively executing, by the gateway, a communications application to convert formats of the first and second messages for communication to the off-board computer based on types of data links used to transmit the first and second messages;

~~selectively executing, by the gateway based on the request, a Web server application that generates work machine performance data based on the converted first message or on the converted second message, and that provides to the source device a Web page maintained by the gateway, the Web page containing information relating to operation of the work machine performance data, the work machine performance data including the value of the first parameter information data code or the value of the second parameter information data code;~~

providing to the off-board computer, by the server application, access to the Web page containing the work machine performance data,

the server application, the communication application, and the Web server application being selectively executed based on a type of request received from the on-board control module or from the off-board computer.

16. (Canceled)

17. (Currently amended) The method of claim 15, wherein the ~~destination device is connected to a second data link and configuring the request to a format compatible with the destination device includes: configuring the request~~ first message is converted to a format compatible with the second based on a type of the on-board data link, and the second message is converted based on a type of the off-board data link.

18. - 23. (Canceled)

24. (Currently amended) The method of claim 15, wherein the off-board data links ~~include data links selected from one or more of~~ link is an Ethernet data link, an SAE standard serial data link, a wireless radio data link, and or a wireless satellite data link.

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25. (Currently amended) The method of claim 15, wherein the on-board data ~~links~~  
~~include data links selected from one or more of~~ link is a proprietary data link ~~and or~~  
an SAE standard serial data link.

26. (Currently amended) The method of claim 15, wherein the server application  
leverages a communication application to convert the formats of the first and second  
messages ~~perform at least one of the configuring steps.~~

27. - 34. (Canceled)

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD A. SIDDIQI whose telephone number is (571)272-3976. The examiner can normally be reached on Monday -Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J. Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nathan J. Flynn/  
Supervisory Patent Examiner, Art Unit 2454